

What is Claimed is:

1. A motor drive device for air conditioner comprising:

a converter (200)(210)(220)(230) which receives an AC power (100)(110);

a three phase inverter (400) which receives the output voltage from the converter (200)(210)(220)(230) and outputs an AC voltage which is supplied to a motor (500) for air conditioner; and

control means (800) which controls the converter (200)(210)(220)(230) so as to maximize efficiency.

2. A motor drive device for air conditioner as set forth in claim 1, wherein the converter (200)(220) is a three phase converter (200)(220).

3. A motor drive device for air conditioner as set forth in claim 1, wherein the converter (210)(230) is a single phase converter (210)(230).

4. A motor drive device for air conditioner as set forth in one of claim 1 through claim 3, further comprising a reactor (101) connected in series to the converter (200)(210)(220)(230) in its input side and a capacitor (102) connected in parallel to the converter (200)(210)(220)(230) in its input side.

5. A motor drive device for air conditioner as set forth in one of claim 1 through claim 4, wherein the converter (200)(210)(220)(230) comprises pairs of switching devices each connected in series, the pairs of switching devices being connected in parallel to each other, a number of pairs corresponding to a phase number, and a diode which is connected in parallel to each switching device.

6. A motor drive device for air conditioner as set forth in one of claim 1 through claim 4, wherein the converter (200)(210)(220)(230) comprises serial circuits which are connected in parallel to each other, each serial circuit

comprising one switching device and a pair of diodes connected in forward connection and interposing the switching device, a number of serial circuits corresponding to a phase number, and a diode which is connected in parallel to each switching device in reverse connection.